

Subsistence in Alaska: A Year 2000 Update

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Introduction

Subsistence fishing and hunting are important for the economies and cultures of many families and communities in Alaska. Subsistence exists alongside other important uses of fish and game in Alaska, including commercial fishing, sport fishing, personal use fishing, and general hunting. This report provides an update on subsistence in Alaska, including the dual state-federal management system.

What is Subsistence?

State and federal law define subsistence as the “customary and traditional uses” of wild resources for food, clothing, fuel, transportation, construction, art, crafts, sharing, and customary trade. Subsistence uses are central to the customs and traditions of many cultural groups in Alaska, including Aleut, Athabaskan, Alutiiq, Euroamerican, Haida, Inupiat, Tlingit, Tsimshian, and Yup'ik. Subsistence fishing and hunting are important sources of employment and nutrition in almost all rural communities.

Commercial fishing differs from subsistence fishing, as it is fishing for sale on commercial markets. Subsistence fish and game cannot be commercially sold. Personal use

fishing is similar to subsistence fishing, except that it is fishing with nets for food in areas generally closed to subsistence, particularly by residents of urbanized areas. Sport fishing and sport hunting differ from subsistence in that, although food is one product, they are conducted primarily for recreational values, following principles of “fair chase”. While subsistence is productive economic activity which is part of a normal routine of work in rural areas, sport fishing and sport hunting usually are scheduled as recreational breaks from a normal work routine.

Who Qualifies for Subsistence?

Federal and state laws currently differ in who qualifies for subsistence. Rural Alaska residents qualify for subsistence under federal law. About 20% of Alaska's population (123,118 people in 270 communities) lived in rural areas in 1999 (see Fig. 1). Of the rural population, 62,646 (51%) were Alaska Native and 60,472 (49 %) were not Alaska Native. Of Alaska's urban population (498,882 people), about 35,243 (7%) were Alaska Native and 463,639 (93%) were not Alaska Native. Under state law, rural residents qualified for subsistence from 1978-1989. Since 1989, all state residents have qualified under state law.

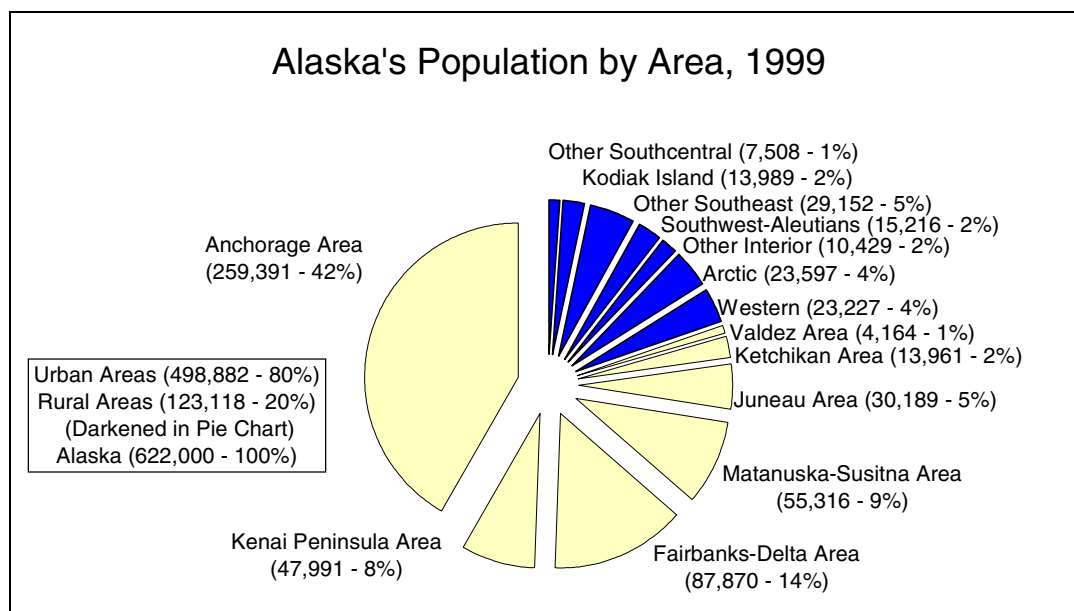


Figure 1

Percent of Households Participating in Subsistence Activities in Rural Areas				
Area	Harvesting Game	Using Game	Harvesting Fish	Using Fish
Arctic	63%	92%	78%	96%
Interior	69%	88%	75%	92%
Southcentral	55%	79%	80%	94%
Southeast	48%	79%	80%	95%
Southwest	65%	90%	86%	94%
Western	70%	90%	98%	100%
Total Rural	60%	86%	83%	95%

Figure 2

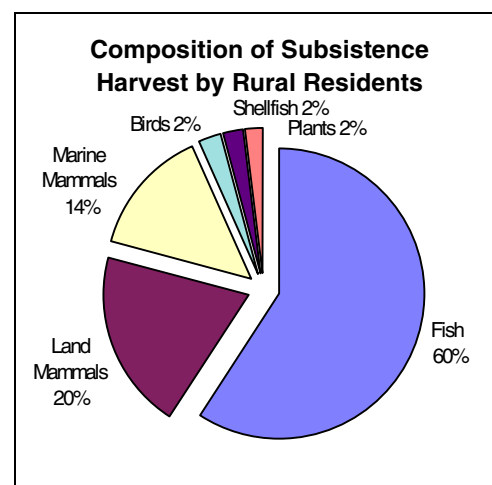


Figure 3

Who Participates in Subsistence?

Most rural families in Alaska depend on subsistence fishing and hunting. A substantial proportion of rural households harvest and use wild foods (see Fig. 2). For surveyed communities in different rural areas, from 92%-100% of sampled households used fish, 79%-92% used wildlife, 75%-98% harvested fish, and 48%-70% harvested wildlife. Because subsistence foods are widely shared, most residents of rural communities make use of subsistence foods during the course of the year.

What is the Rural Food Harvest?

Most of the wild food harvested by rural families is composed of fish (about 60% by weight), along with land mammals (20%), marine mammals (14%), birds (2%), shellfish (2%), and plants (2%) (see Fig. 3). Fish varieties include salmon, halibut, herring, and whitefish. Seals, sea lion, walrus, beluga, and bowhead whale comprise the marine mammal harvest. Moose, caribou, deer, bear, Dall

sheep, mountain goat, and beaver are commonly used land mammals, depending on the community and area.

How Large is the Subsistence Harvest?

The subsistence food harvest in rural areas represents about 2% of the fish and game harvested annually in Alaska (see Fig. 4). Commercial fisheries harvest about 97% of the statewide harvest (about 2.0 billion lbs annually), while sport fishing and hunting take about 1% (18.0 million lbs).

Though relatively small in the statewide picture, subsistence fishing and hunting provide a major part of the food supply of rural Alaska (see Figs. 5 and 6). Our best estimate is about 43.7 million lbs (usable weight) of wild foods are harvested annually by residents of rural areas of the state, and 9.8 million lbs by urban residents (see Fig. 6). On a per person basis, the annual wild food harvest is about 375 lbs per person per year for residents of rural areas (about a pound a day per person), and 22 lbs per person per year for urban areas (see Fig. 5).

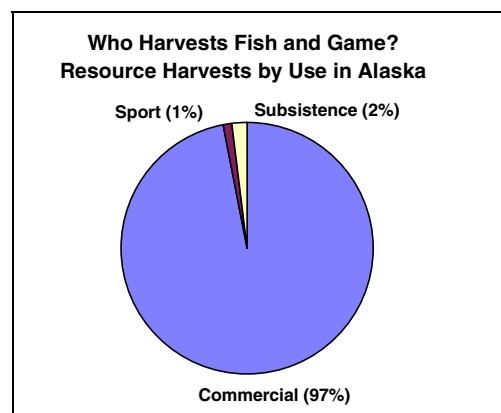


Figure 4

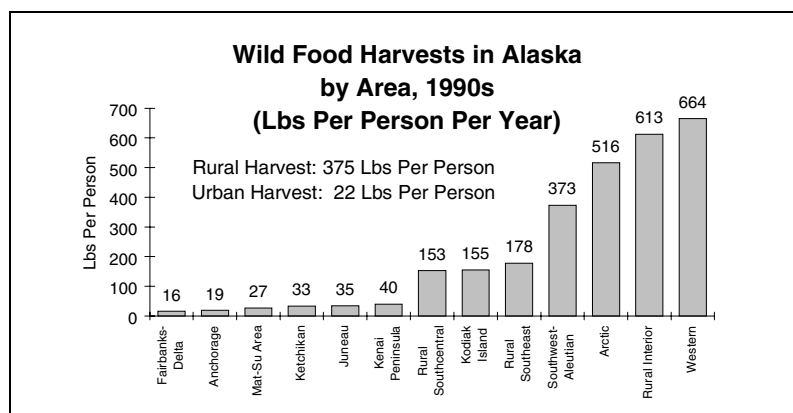


Figure 5

Nutritional Value of Subsistence

The subsistence food harvest provides a major part of the nutritional requirements of Alaska's population. The annual rural harvest of 375 lbs per person contains 242% of the protein requirements of the rural population (that is, it contains about 118 grams of protein per person per day; about 49 grams is the mean daily requirement) (see Fig. 6). The subsistence harvest contains 35% of the caloric requirements of the rural population (that is, it contains about 840 Kcal daily, assuming a 2,400 Kcal/day mean daily requirement). The urban wild food harvests contain 15% of the protein requirements and 2% of the caloric requirements of the urban population (see Fig. 6).

Wild Food Harvests in Alaska: Nutritional and Replacement Values						
	Annual Wild Food Harvest (Lbs Per Person)	Annual Wild Food Harvest (Total Lbs)	Percent of Population's Required		Estimated Wild Food Replacement Value @ \$3/lb	Estimated Wild Food Replacement Value @ \$5/lb
			Protein (49 g/day)	Calories (2400 C/day)		
Rural Areas						
Southcentral	153	1,688,467	99%	14%	\$5,065,401	\$8,442,335
Kodiak Island	155	2,061,607	100%	14%	\$6,184,821	\$10,308,035
Southeast	178	5,064,509	115%	17%	\$15,193,527	\$25,322,545
Southwest-Aleutian	373	5,114,522	241%	35%	\$15,343,566	\$25,572,610
Interior	613	6,359,597	396%	57%	\$19,078,791	\$31,797,985
Arctic	516	10,507,255	333%	48%	\$31,521,765	\$52,536,275
Western	664	12,918,649	429%	62%	\$38,755,947	\$64,593,245
Total Rural	375	43,714,606	242%	35%	\$131,143,818	\$218,573,030
Urban Areas						
Ketchikan Area	33	461,855	22%	3%	\$1,385,566	\$2,309,276
Juneau Area	35	922,910	22%	3%	\$2,768,729	\$4,614,548
Matsu Area	27	1,056,322	17%	2%	\$3,168,966	\$5,281,610
Fairbanks-Delta	16	1,307,648	10%	1%	\$3,922,944	\$6,538,240
Kenai Peninsula	40	1,600,320	26%	4%	\$4,800,960	\$8,001,600
Anchorage Area	19	4,390,957	13%	2%	\$13,172,872	\$21,954,786
Total Urban	23	9,740,012	15%	2%	\$29,220,036	\$48,700,060
Alaska Total	100	53,454,618	65%	9%	\$160,363,854	\$267,273,090

Figure 6

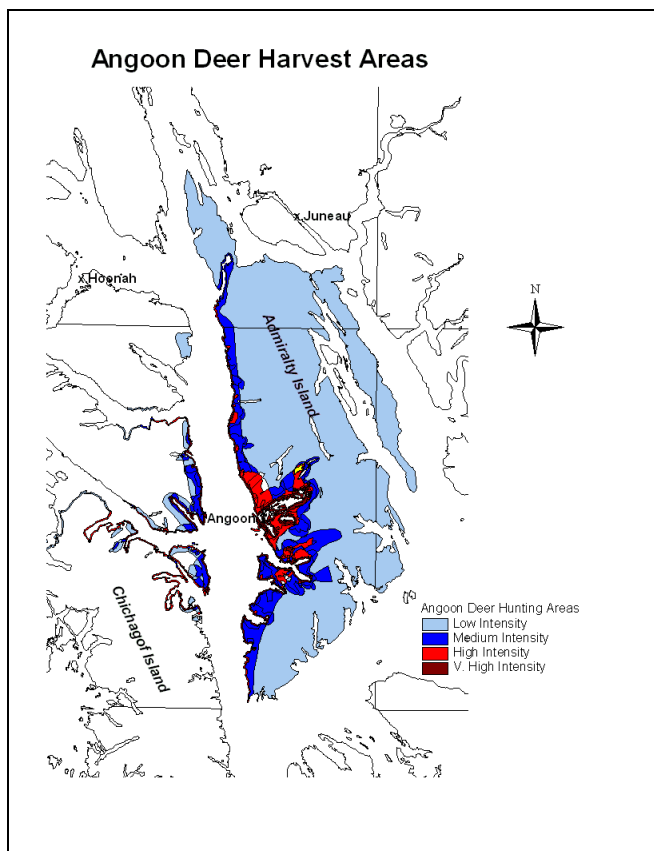


Figure 7

Traditional Harvest Areas

Studies show that subsistence users tend to harvest in traditional use areas surrounding their communities. Subsistence harvest areas are accessible from the community, although seasonal camps are used to access some species. Subsistence harvest areas for communities are definable and relatively predictable. Subsistence users generally do not harvest outside their community's traditional use areas (see Fig. 7).

The Monetary Value of Subsistence Harvests

Subsistence fishing and hunting are important to the rural economy. Attaching a dollar value to wild food harvests is difficult, as subsistence products do not circulate in markets. However, if families did not have subsistence foods, substitutes would have to be purchased. If one assumes a replacement expense of \$3 - \$5 per pound, the simple "replacement value" of the wild food harvests in rural Alaska may be estimated at \$131.1 - \$218.6 million dollars annually (see Fig. 6).

Subsistence and Money

Subsistence is part of a rural economic system, called a "mixed, subsistence-market" economy. Families invest

money into small-scale, efficient technologies to harvest wild foods, such as fishwheels, gill nets, motorized skiffs, and snowmachines. Subsistence food production is directed toward meeting the self-limited needs of families and small communities, not market sale or accumulated profit as in commercial market production. Families follow a prudent economic strategy of using a portion of the household monetary earnings to capitalize in subsistence technologies for producing food. This combination of money from paid employment and subsistence food production is what characterizes the mixed, subsistence-market economies of rural areas. Successful families in rural areas combine jobs with subsistence activities and share wild food harvests with cash-poor households who cannot fish or hunt, such as elders, the disabled, and single mothers with small children.

Dual Subsistence Management

Subsistence fishing and hunting in Alaska are regulated by the State of Alaska and the federal government, depending upon where the harvests occur. This system is called a “dual management system” because there are overlapping state-federal jurisdictions in many areas. The federal government regulates federal subsistence fisheries and hunts on federal public lands and federally-reserved waters in Alaska. The State of Alaska regulates state subsistence fisheries and hunts on all Alaskan lands and waters. A harvester should consult both the federal subsistence regulation booklet and the state subsistence regulation booklet, to be appraised of the complete set of hunting or fishing regulations in a particular area

The Alaska Board of Fisheries and the Alaska Board of Game create regulations for state subsistence fisheries or hunts. The Federal Subsistence Board creates regulations for federal subsistence fisheries or hunts. In creating regulations, each board follows procedures for obtaining information and comment on proposed regulations from the public, agencies, and other interests.

Hunting of marine mammals is managed by the federal government through the National Marine Fisheries Service (seals, sea lions, and whales) or the U.S. Fish and Wildlife Service (polar bear, sea otters, and walrus). There is an exemption in the federal Marine Mammal Protection Act to allow for the traditional harvest and use of marine mammals by coastal Alaska Natives.

Subsistence hunting and fishing are closed in non-rural areas of Alaska by the federal and state programs. Federal law recognizes subsistence harvests only by residents of rural areas. State law recognizes subsistence harvests in subsistence areas outside the boundaries of “nonsubsistence areas”. The Federal Subsistence Board and the Alaska

Joint Board of Fisheries and Game have determined that the areas around Anchorage-Matsu-Kenai, Fairbanks, Juneau, Ketchikan, and Valdez are non-rural areas, where fish and game harvests may be allowed under sport, personal use, or commercial regulations, but not under subsistence regulations.

The Subsistence Priority

Subsistence uses of fish and land mammals are given a priority over commercial fishing and recreational fishing and hunting in state and federal law. This means that when the harvestable portion of a fish stock or game population is not sufficient for all public uses, that subsistence uses are restricted last by regulation.

By and large, urban fishers and hunters have not experienced major changes in harvest opportunity due to the subsistence priority. General hunting and sport fishing regulations continue to provide opportunities for residents and non-residents. Personal use net fisheries provide for established food fisheries of urban residents in areas closed to subsistence fishing.

For example, during the eleven-year period when the rural priority was being implemented under state management (1978-1989), general resident hunting seasons for caribou increased by 36% (from 5,505 days to 7,500 days), moose hunting days decreased by 10% (from 2,961 days to 2,671 days), and Dall sheep hunting days increased by 2% (from 1,855 days to 1,900 days) – comparing the 1978-79 resident season with the 1989-90 resident season. That is, during this period, hunting days by urban hunters for caribou, moose, and sheep were not significantly changed by the rural subsistence priority.

The greatest effect of state and federal subsistence laws has been to legally recognize customary and traditional harvest practices and uses in rural areas. Because of the law, the Alaska Boards of Fisheries and Game and the Federal Subsistence Board have created subsistence regulations designed to provide opportunity for the continued harvest of the rural food supply. While impacts on urban residents have been relatively small, the impacts on rural areas have been great. Rural residents have a legally protected opportunity to fish and hunt to feed families following long-term customs and traditions.

Robert J. Wolfe, Research Director, Division of Subsistence, ADF&G, Juneau, March 2000